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| J. DI MARTINO, C. RAPIN,
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| J. C. RUSHING and M. EDWARDS | 1883 | The role of temperature gradients in residential copper pipe corrosion |
| V. DE. F. C. LINS, M. A. FREITAS
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| A. ABALLE, M. BETHENCOURT,
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| S. S. ABDEL REHIM, H. H. HASSAN
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| P. KELLER and H.-H. STREHBLOW | 1939 | XPS investigations of electrochemically formed passive layers on Fe/Cr-alloys in 0.5 M H ₂ SO ₄ |
| G. GUNASEKARAN, S. CHONGDAR,
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| Y. LI, M. B. IVES, K. S. COLEY and
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| M. ABDALLAH | 1981 | Antibacterial drugs as corrosion inhibitors for corrosion of aluminium in hydrochloric solution |
| Z. W. LI, W. GAO, D. L. ZHANG
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